

REMARKS

This responds to the Office Action dated February 12, 2003.


Claims 1, 28, 30, 58, 63, and 91 are amended. No claims are canceled or added. As a result, claims 1-91 remain pending in this application.

Telephonic Interview

Applicant thanks Examiner George Evanisko for extending the courtesy of a Telephonic Interview with Applicant's counsel, Suneel Arora, on May 5, 2003. The presently submitted claim amendments were discussed, as well as how the presently pending claims define over Hill U.S. Patent No. 5,814,085, which was previously of record in this patent application. Although no agreement was reached as to the patentability of the present claims over the Hill reference, Applicant believes that agreement was reached that the present claim amendments overcome the bases of rejection under 35 U.S.C. Section 112, first and second paragraphs, cited in the Office Action dated February 12, 2003.

As requested by the Examiner, Applicant summarizes herein the reasons the present claims are believed patentably distinct over Hill. Hill apparently describes a rate stabilization pacemaker that computes a new escape interval (T_e) by adding an incremental value (dT) to a counter value (T) that measures the previous pacing interval. (*See Hill* at column 8, lines 13-15 (“‘ T ’ is the value of the timing interval counter stored at the point that a cycle ends, either with a paced beat or a sensed depolarization.”)) This technique is distinguishable from those of the present claims that recite or incorporate adding a first addend to a second addend that includes a stored previously-computed value of the first indicated pacing interval—for both a most recent V-V interval that is concluded by a paced beat, as well as a most recent V-V interval that is concluded by a sensed beat.

For a cycle ending with a sensed depolarization, Hill's counter value (T) will necessarily be shorter than the stored previously-computed value of the first indicated pacing interval (otherwise, the previously-computed escape interval would have timed-out, and the Hill device would have issued a pace pulse). By contrast, certain of the present claims describe using (for cycles ending in both paced and sensed beats) a second addend that includes a stored previously-computed value of the first indicated pacing interval, rather than the counter value (T) that uses



the actual measured value of a premature sensed contraction. Therefore, the present rate stabilization algorithm is believed to be much less likely to be driven to unwanted high pacing rates by premature sensed contractions, which are typically present during atrial fibrillation.

During the telephonic interview, the Examiner noted that Hill states:

With the beginning of each new escape interval on the occurrence of either a paced or sensed atrial or ventricular depolarization, the subsequent pacing interval is computed to be equal to the previous pacing interval, plus a fixed increment dT

(Hill at column 3, lines 34 – 38.) Applicant respectfully points out that this passage does not state that the subsequent pacing interval is computed by adding dT to the previously-calculated pacing interval, but rather refers to adding dT to the actual pacing interval.

See Hill at column 8, lines 30-33 (“T is set equal to Ta (the actual escape interval)”).

As discussed above, the actual pacing interval, which is measured by a counter value, differs from the previously-calculated pacing interval for a cycle concluded by a sensed beat. Any contrary interpretation of this passage from Hill would be inconsistent with Hill at column 8, lines 13-15 and column 8, lines 30-33 (“T is set equal to Ta (the actual escape interval)”) and with each and every example in Hill of computing Te as set forth in Hill at column 4, line 9 through column 7, line 15. Accordingly, Applicant respectfully submits that all of the present claims are patentably distinct over Hill, and requests allowance of the same.

Objections to the Specification

The Office Action objected to the specification for allegedly failing to provide proper antecedent basis for the claimed “averaging.” Applicant has amended certain of the present claims to replace “averaging” with summing of first and second addends, thereby mooting this basis of objection. Notwithstanding this amendment, Applicant respectfully submits that the present application’s discussion of averaging at page 12 provides sufficient antecedent basis for any use of the term “averaging” in the claims. In view of the above, Applicant respectfully requests withdrawal of this basis of objection.

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§112 Rejection of the Claims

Claims 1 – 54, 58 – 89 and 91 were rejected under 35 U.S.C. § 112, first paragraph, as allegedly nonenabling. Claims 6 – 22, 33 – 49, 60, 61 and 71 – 87 were rejected under 35 U.S.C. § 112, second paragraph, as allegedly indefinite. Applicant believes that agreement was reached during the telephonic interview that the present claim amendments to claims 1, 28, 58, 63, and 91 overcome each such basis of rejection. Applicant has additionally amended claim 30 to provide appropriate antecedent basis. Because the amendment to claim 30 merely corrects antecedent basis for subject matter already present in the claim, it is believed to be non-narrowing. In view of the above, Applicant respectfully requests withdrawal of these bases of rejection.

Allowable Subject Matter

Applicant gratefully acknowledges the allowance of claims 55 – 57 and 90.

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Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (612-373-6951) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743


Respectfully submitted,

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Date May 6, 2003

By 
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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 6 day of May, 2003.

GREG HANSON
Name


Signature

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